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ABSTRACT

This Maryland resource manual provides local education agencies with guidelines on how to handle body fluids to prevent the transmission of diseases, especially Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV), in the school setting. The first section summarizes the reasons for development of the manual. The second section summarizes the various diseases that are transmitted through blood and body fluids. The third section provides guidelines for school staff on: (1) handwashing; (2) using gloves; (3) disposing of materials soiled with blood and body fluids; (4) identifying diseases that are transmitted via body fluids; (5) cleaning up body fluid spills and the equipment used for cleaning; (6) disinfecting materials and clothes; and (7) educating and training staff. A table lists the body fluid sources (blood, feces, urine, respiratory secretions, vomitus, semen) with the organisms of concern (HBV, HIV, cytomegalovirus, salmonella bacteria, shigella bacteria, rotavirus, mononucleosis virus, cold viruses, influenza viruses, parvovirus, measles, mumps, chickenpox, gonorrhea) and the methods of prevention (using gloves or other barriers, washing hands, reporting accidental contact). The appendices contain diagrams of the correct procedure for handwashing and removing gloves; the Acquired Immune Deficiency Syndrome Education Bylaw; information on understanding the labels of germicides; guidelines on management of exposure to HIV; and a proposed standard for occupational exposure to bloodborne pathogens. (ABL)

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RESOURCE MANUAL FOR HANDLING BODY FLUIDS IN THE SCHOOL SETTING TO PREVENT TRANSMISSION OF HUMAN IMMUNODEFICIENCY VIRUS AND HEPATITIS B VIRUS

MARYLAND STATE DEPARTMENT OF EDUCATION
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
AIDS ADMINISTRATION

1991
(Revised Edition)

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MARYLAND STATE DEPARTMENT OF EDUCATION

DIVISION OF COMPENSATORY EDUCATION AND SUPPORT SERVICES

Pupil Services Branch
200 West Baltimore Street
Baltimore, Maryland 21201
1991

Maryland Department of Health and Mental Hygiene

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Department of Health and Mental Hygiene

Polly Harrison
Director, Office of Child Health
Department of Health and Mental Hygiene

Genie L. Wessel
Consultant,, School/Adolescent Health,
Department of Health and Mental Hygiene

Committee

Victoria E. Hastings
Statewide Coordinator, Infection Control
AIDS Administration
Maryland Department of Health and Mental Hygiene

Pat Johnston
AIDS Prevention Specialist
The Howard County Public School System

Dr. Lani Majer
Director of School Health Services
Anne Arundel County Health Department

Maureen McCleary
Director, Office on AIDS
Prince George's County Health Department

Janet Pabst
AIDS Prevention Specialist
Maryland State Department of Education

Patricia J. Powers
Chief, Division of Infection Control
Epidemiology and Disease Control Program
Maryland Department of Health and Mental Hygiene

Michele O.Prumo
Specialist, School Health Services
Maryland State Department of Education

Dr. John Santelli
Director of School Health Services
Baltimore City Health Department

Genie L. Wessel
Consultant, Child/Adolescent Health
Family Health Administration
Maryland Department of Health and Mental Hygiene

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EXECUTIVE SUMMARY FOR RESOURCE MANUAL FOR HANDLING BODY FLUIDS IN THE SCHOOL SETTING TO PREVENT THE TRANSMISSION OF HUMAN IMMUNODEFICIENCY VIRUS, HEPATITIS B VIRUS AND OTHER INFECTIOUS DISEASES

This resource manual provides local education agencies with guidelines on how to handle body fluids to prevent the transmission of diseases, especially HIV and HBV, in the school setting. This manual is to be used by each school system to provide education and training for all school staff.

This document was developed by both educators and health personnel and was approved by the AIDS Administration of the Department of Health and Mental Hygiene.

This resource manual is divided into four sections.

Section 1 - Summarizes the reasons for the development of the manual.

Section 2 - Summarizes the various diseases that are transmitted through blood and body fluids.

Section 3 - Provides guidelines and techniques for school staff on:

- *Handwashing*
- *Using Gloves*
- *Disposing of materials soiled with blood and body fluids*
- *Identifying diseases that are transmitted via body fluids*
- *Cleaning up body fluid spills and the equipment used for cleaning*
- *Disinfecting materials and clothes*
- *Educating and training staff*

Section 4 - Provides supplementary materials related to the control of blood-borne diseases.

There should be a copy of the resource manual in each school. All school staff should know where it is kept and have access to it. Through proper handling of blood and other body fluids, the transmission of blood-borne diseases in the school setting should be negligible.

INTRODUCTION

The Maryland State Department of Education and the Department of Health and Mental Hygiene recognize that prevention of communicable disease is an important area of concern among school staff. Therefore, these two State Departments have worked collaboratively to address these concerns and to assist local education agencies (LEAs) in dealing with health-related issues. Local education agencies have expressed concerns regarding the need for guidelines that outline precautions all school staff should take if they come into contact with blood and other body fluids. The following resource manual has been developed specifically to address prevention of the transmission of both Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), and other infectious diseases transmitted by body fluids.

The Centers for Disease Control (CDC) emphasize the need to consider all blood and body fluids as potentially infectious. The vast majority of persons who are infected with HIV or HBV have no symptoms; however transmission can occur through inappropriate handling of blood and body fluids. Based on this consideration, school staff should consider the body fluids from all persons as potentially infectious and take appropriate precautions. This manual will assist school staff in developing a level of personal responsibility for preventing the transmission of any communicable disease. Additionally, the resource manual can be used to provide the basis for inservice training for school personnel. At a minimum, the inservice training should include the contents of this resource manual.

This resource manual contains guidelines that apply to all members of the school staff who may come into direct or indirect contact with the blood and other body fluids of another person.

HIV AND HBV TRANSMISSION

Human Immunodeficiency Virus (HIV), the virus that causes Acquired Immune Deficiency Syndrome (AIDS), is transmitted through sexual contact with infected individuals and exposure to infected blood. It can also be transmitted from an infected mother to her baby during pregnancy, delivery, and breast feeding. HIV has been isolated from blood, semen, vaginal secretions, breast milk, cerebrospinal fluid, saliva, and tears. However, epidemiologic evidence has implicated only blood, semen, vaginal secretions, breast milk and fluids with visible blood in transmission. The Centers for Disease Control continue to study health care workers who have had percutaneous (through the skin) or mucous membrane exposure (eye, nose and mouth) to blood and body fluids. CDC concludes that while there is a risk of HIV transmission to health care workers, the risk is extremely low and can be minimized by taking appropriate precautions. CDC estimates the risk of HIV transmission following a needle-stick injury from an infected person to be less than 0.3 percent.

Identified risk factors for Hepatitis B Virus (HBV) transmission are almost identical to HIV. Despite the similarities in the modes of transmission, the risk of HBV infection after exposure far exceeds that for HIV infection. It is estimated that the risk of acquiring HBV infection following an injury with a needle contaminated with blood of a HBV carrier ranges from six percent to thirty percent, greater than the risk of HIV infection under similar circumstances.

GUIDELINES FOR PRECAUTIONS WITH BODY FLUIDS TO PREVENT THE SPREAD OF HIV, HBV, AND OTHER INFECTIOUS DISEASES

These guidelines go beyond the Centers for Disease Control's Universal precautions. They were developed for use in the school setting and to provide school personnel with standard procedures for the handling of body fluids. For this document body fluids will be identified as blood, feces, urine, saliva, nasal discharges, vomitus, and semen. The following table outlines what types of organisms may be spread through a variety of body fluids and how they are transmitted.

BODY FLUID SOURCES OF INFECTIOUS AGENTS AND PREVENTION IN THE SCHOOL SETTING

Body Fluid Source	Organism of Concern	Prevention
Blood		
• cuts/abrasions • nosebleeds • menses • contaminated sharps	Hepatitis B Virus Human Immunodeficiency Virus Cytomegalovirus Other Hepatitis Viruses	Use gloves or other barriers (i.e. tissues, paper towels) Wash Hands Report accidental contact
Feces		
• incontinence • diaper changing	Salmonella Bacteria Hepatitis A & C Viruses Shigella Bacteria Rotavirus	Use gloves or other barriers (i.e. tissues, paper towels) Wash Hands
Urine		
• incontinence • diaper changing	Cytomegalovirus	Use gloves or other barriers (i.e. tissues, paper towels) Wash Hands
Respiratory Secretions		
• saliva • nasal discharge	Mononucleosis Virus Common Cold Viruses Influenza Viruses Parvovirus (Fifth Disease) Measles, Mumps, Chickenpox	Use gloves or other barriers (i.e. tissues, paper towels Wash Hands
Vomitus	Mononucleosis Virus	Use gloves or other barriers (i.e. tissues, paper towels Wash Hands
Semen	Hepatitis B Virus Human Immunodeficiency Virus Gonnorhea	Use gloves or other barriers (i.e. tissues, paper towels) Wash Hands Report accidental contact

If additional information is needed on listed diseases, call your local health department

I. Potential Hazards of Body Fluid Spills

It must be emphasized that body fluids with which one comes into contact may contain organisms, some of which may cause disease. Furthermore, many germs may be carried by individuals who have no symptoms of illness. These individuals may be at various stages of infection: incubating disease, mildly infected with the disease without symptoms, or chronic carriers of certain infectious agents including HIV and hepatitis viruses. In fact, transmission of communicable diseases is more likely to occur from contact with infected body fluids of unrecognized carriers than from contact with fluids from recognized individuals because simple precautions are not always carried out.

II. Handwashing

- The most effective technique to prevent the spread of infection is frequent and thorough handwashing. (Appendix A - Diagram, Correct Procedure for Handwashing)
- Effective handwashing is accomplished by using soap and running water while rubbing hands together for at least ten seconds.
- Hands should be dried on disposable paper towels. Before discarding, these paper towels should be used to turn off faucets.
- Any type of soap is effective; however, antiseptic soap should be available in health rooms or special settings where medical procedures are done (e.g., catheterization, tracheotomy care).
- Hands should always be washed before and after providing first aid or similar treatment; after cleaning up blood or body fluid spills; or after handling potentially infectious materials. Always wash hands after removing gloves. Always wash hands before eating.

III. Gloves And Other Barriers

- All workers should routinely use gloves to prevent skin and mucous membrane exposure when in contact with blood, other body fluids, or materials contaminated with blood or other body fluids.
- Types of gloves: Vinyl or latex gloves are appropriate for use in school. It is recommended that janitorial staff use reusable gloves of a heavy material, such as household gloves. Plastic gloves, such as those used in cafeterias, do not provide adequate protection for handling possibly infectious materials.
- Size of gloves: Gloves are available in small, medium, and large sizes. Efforts should be made to have appropriate sizes available for school personnel's use.
- Accessibility: Disposable gloves should be available in every classroom, office area, janitorial closet, and laundry area. These gloves should be maintained in a location accessible to all staff and substitutes. The quantity of gloves should be predicated on the subject area, age of the students, and any special needs of the students and teachers. The supply of gloves needs to be replenished throughout the year.
- All first aid kits should be stocked with gloves and replenished as necessary.
- Disposal: Soiled gloves should be removed using the recommended procedure illustrated in Appendix B, (Diagram, Correct Procedure for Removing Gloves). Used gloves should be disposed of by placing in a trash can lined with a plastic bag. Wash hands after removing gloves.
- Staff Instruction: Procedures for putting on, removing, and disposing of soiled gloves need to be included in staff education programs (Appendix C - AIDS Prevention Education).
- Other Barriers: In some instances, gloves may not be immediately available. In those circumstances, other barriers (e.g. a wad of tissues, paper towels, or an article of clothing) should be used.

IV. Disposal of Waste Soiled With Blood and Other Body Fluids

- Liquid waste (blood, vomitus, etc.) can be disposed of into the public sewer system.
- Materials (sanitary napkins, bandages, diapers, etc.) contaminated with blood or other body fluids should be placed in a plastic bag. This bag can then be disposed of in the regular trash can.
- Disposable sharps (needles, syringes, capillary tubes, lancets) should be left intact and disposed of into puncture- resistant containers that are leak-proof. **NEVER ATTEMPT TO RECAP NEEDLES, BEND THEM OR OTHERWISE ATTEMPT TO PURPOSELY BREAK THEM.** Do not overfill the container, as this can also lead to needle-stick "accidents." When the container is 3/4 full, fill it with a hospital-grade disinfectant. (See Part V.) After 10 minutes, you can then dispose of the container in the regular trash.

VI. Clean-Up of Blood/Body Fluids

- Disposable gloves should be worn.
- Disposable cleaning cloths should be used to clean up spills of blood and other body fluids.
- Surface debris (e.g. vomitus, pool of blood) should be removed first. A hospital grade disinfectant should then be used to disinfect the area. Check the label of the disinfectant and follow instructions for recommended dilution and surface contact time.
- Disinfectants: A hospital grade disinfectant should be used to clean surfaces contaminated with body fluids. Such disinfectants will kill vegetative bacteria, fungi, tuberclular bacilli, and viruses. The disinfectant should be registered by the U. S. Environmental Protection Agency (EPA) for use as a disinfectant in hospitals. (Appendix D - Understanding the Labels of Germicides)

VI. Cleaning of Equipment/Clothing

- Gloves should be worn when handling soiled clothing.
- Soiled clothing should be handled as little as possible. If immediate laundering is not possible, soiled clothing should be placed in a leak proof bag and sealed until removed by parent or guardian.
- Laundry should be washed with detergent on the hot cycle. Clothing soaked with blood and other body fluids should be washed separately from other items. Presoaking may be required for heavily soiled clothing.
- There is no epidemiologic evidence of HIV/HBV transmission from soiled laundry. The effect of dilution, pH changes, and heat while laundering renders the risk of HIV and HBV transmission negligible.
- Sponges, mops, or other non-disposable equipment that have been contaminated with blood and other body fluids should be cleaned with soap and water and soaked in a hospital grade disinfectant.
- Toys soiled with body fluids should be washed with soap and water, cleaned with a hospital grade disinfectant, rinsed, and dried. Stuffed toys should not be exchanged among children.

VII. Disinfecting Rugs

- For soiled rugs, apply a sanitary absorbent agent, let dry, and vacuum. If necessary, mechanically remove the absorbent agent with dustpan and broom, then apply rug shampoo with a brush and revacuum.
- Refer to VI, Cleaning of Equipment/Clothing, for directions on how to clean any materials or equipment used to clean the rug.

VIII. Education and Training for School Staff

It is the responsibility of every school system to ensure that all school staff receive general information about blood-borne infectious diseases and are informed of the occupational exposure risk factors associated with the transmission of these diseases, including HIV and HBV. This needs to be done so that each staff member can recognize potentially hazardous situations and take appropriate precautions to avoid or minimize personal risk. Information about HIV/AIDS is required to be given annually to all school staff in COMAR 13A.04.18.04.

Every school system shall evaluate each routine or reasonably anticipated job-related task or group of tasks and determine which tasks are likely to result in contact with blood or body fluids. School Systems shall establish and maintain a staff training and education program for any and all school staff who perform, or may be required to perform a contact task. This staff training and educational program shall conform to the Maryland Occupational Safety and Health (MOSH) Standard for Occupational Exposure to Blood-Borne Pathogens, .09.12.37, Draft Regulations, October 24, 1990.

It is the responsibility of each school system to keep and maintain records in accordance with MOSH Standards.

IX. Management of Blood and/or Body Fluids Exposures

Students and school personnel who have experienced blood and/or body fluid exposures, as defined in State of Maryland Department of Health and Mental Hygiene AIDS Administration and Epidemiology and Disease Control, Section III, Management of Exposures (Appendix E), should be directed to follow the procedures outlined in that document. Procedures for record keeping and/or reporting should follow the local education agencies' procedures for reporting and the proposed Maryland Occupational Safety and Health Standard for Exposure to Blood-Borne Pathogens, .09.12.37, Draft Regulations, October 24, 1990 (Appendix F).

APPENDICES

Appendix A ..... Correct Procedure for Handwashing

Appendix B ..... Correct Procedure for Removing Gloves

Appendix C ..... AIDS Prevention Education Bylaw

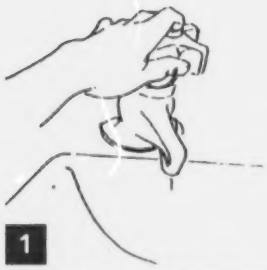
Appendix D ..... Understanding the Labels of Germicides

Appendix E ..... State of Maryland Department of Health and Mental Hygiene AIDS Administration and Epidemiology and Disease Control

Appendix F ..... Occupational Exposure to Bloodborne Pathogens Proposed Standard

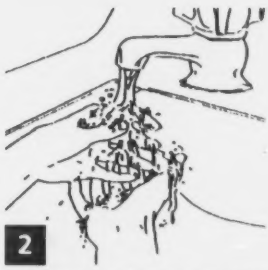
PROPER HANDWASHING TECHNIQUE

Appendix A



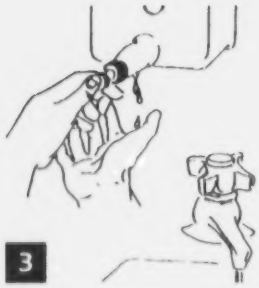
1

Open faucet



2

Wet hands thoroughly

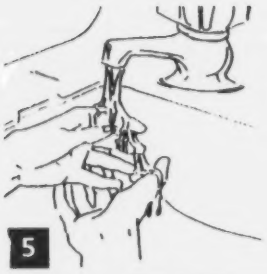


3

Apply soap

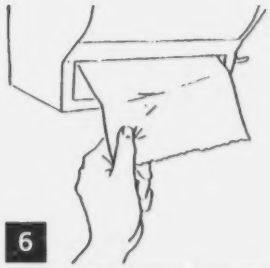
4

Rub vigorously
10 seconds or more



5

Rinse thoroughly



6

Dry hands with
disposable towel

7

Use towel to turn off faucet

PROPER REMOVAL OF GLOVES

Appendix B

1

Grasp glove at heel of hand without touching skin

2

Pull glove toward fingers

3

Remove glove from hand

4

While holding soiled glove, insert index finger and middle of free hand under glove at cuff

5

Pull glove toward fingers

6

As glove is removed it is turned inside out, over the glove that has already been removed

7

Discard contaminated gloves in appropriate waste container and wash hands

Appendix C

Title 13A
STATE BOARD OF EDUCATION

Subtitle 04 SPECIFIC SUBJECTS

Chapter 15 AIDS Prevention Education

Authority: Education Article, 2-205(h) and 7-401,
Annotated Code of Maryland

.01 General,

A. Acquired immune deficiency syndrome (AIDS) is a major health problem for which no cure or effective treatment has been found, and AIDS education is critical in preventing the spread of AIDS.

B. Notwithstanding the provisions contained in COMAR 13A.04.01, local school systems shall provide annual instruction in acquired immune deficiency syndrome to all students at least once in grades 3 to 6, in grades 6 to 9, and 9 to 12.

C. Each local board of education shall determine the three grades between 3 and 12 at which all students are to receive instruction.

D. Students may be excused from the instructional unit on AIDS prevention upon a written request from their parents or legal guardians. For those students excused from the unit, each local school shall provide other worthwhile learning activities in another health-related area. When practical, curricular materials may be made available by the school system for home instruction use by parents or guardians of students excused from AIDS prevention instruction in the school.

E. Content and curricular topics shall be appropriate to the age, interests, and needs of students, giving particular regard to students at the early learning level. Pursuant to instructional guidelines developed by the Maryland State Department of Education and as appropriate for the age of the students, curricular topics shall include:

(1) The definition and description of AIDS;
(2) Symptoms and complications associated with AIDS and related disorders;
(3) Means by which human immunodeficiency virus (HIV) is transmitted;
(4) Diagnosis and treatment of AIDS;
(5) Methods for prevention of the spread of AIDS; and
(6) Information on the available research concerning AIDS.

.02 Curriculum Development and Review.

A. Each local school system shall develop curriculum in AIDS prevention education in consultation with the local health department and may use resources available from the Maryland Department of Health and Mental Hygiene and the Maryland State Department of Education.

B. Each local school system shall use an existing committee or appoint a committee comprised of educators, representatives of the community including parents or guardians of children enrolled in a public school program, and the local health department which shall examine all printed and audiovisual materials and computer software proposed for use in the AIDS prevention education curriculum. Recommendations from this committee shall be submitted to the local superintendent of schools and the local board of education for final action. All aspects of the curriculum shall be reviewed by the committee at least annually to assure that it is accurate and current.

.03 Teacher Training.

School staff selected to teach AIDS prevention curricular topics in the classroom shall receive in-service education before initiating instruction with students, and annually after that. The content of the in-service education program should be designed in consultation with the local health department.

.04 Staff Awareness Program.

Personnel employed by the local school system shall be provided annually with information or an awareness program about AIDS and its prevention. The information or awareness program should be developed in consultation with the local health department.

.05 Parent Awareness Program.

Each local school system shall make an effort to provide information about AIDS to the parents of children enrolled in public school programs. The information or awareness program should be developed in consultation with the local health department.

.06 Implementation.

In September 1988, each local superintendent of schools shall certify in writing to the State Superintendent of Schools that the school system has complied with all provisions of this chapter.

Administrative History

Effective date:
Regulations .01-.06 adopted as an emergency provision effective October 6, 1987 (14:22 Md. R. 2336), emergency status expired April 6, 1988
(Emergency provisions are temporary and not printed in COMAR)

Regulations .01-.06 adopted effective May 2, 1988 (15:9 Md. R. 1110)

CHANGES TO REGULATIONS

Changes frequently occur to regulations published in the Code of Maryland Regulations (COMAR). These changes are always printed in the Maryland Register, COMAR's be-weekly supplement. Consult the "Cumulative Table of COMAR Regulations Adopted, Amended, or Repealed" in the most recent issue of the Maryland Register.

APPENDIX D

UNDERSTANDING THE LABELS OF GERMICIDES

Under the Federal Insecticide, Fungicide and Rodenticide Act (FIRFA), the Environmental Protection Agency (EPA) is responsible for the registration and regulation of germicides. In exercising this responsibility, the EPA requires that label claims be truthful, meaningful and practical for safe and effective use of the product.

When a germicide is being considered for purchase, the label should be checked for:

1. The EPA registration number;
2. An ingredient statement;
3. Directions for use;
4. Adequate safety and precautionary information;
5. The name and address of the manufacturer or distributor

Additionally, examine the label for the tabulation of benefits. The claims that appear on the label are established by testing the product against a uniform set of official standards of the Association of Official Analytical Chemists, which are used by the EPA. Under these standards a HOSPITAL DISINFECTANT must be effective against the test organisms Staphylococcus aureus, Salmonella Cholerasuis and Pseudomonas Aerugenosa. A TUBERCULOCIDAL LABEL means the chemical has been tested against Mycobacterium tuberculosis var bovia. Labels may also include a fungicidal, virucidal and sporocidal claims.

The label on a germicide is a legal document and is a guarantee that the product will perform as stated on the label. An informed examination of the label will result in purchase of a germicide that will perform the desired functions effectively.

APPENDIX E

State Of Maryland Department of Health and Mental Hygiene AIDS Administration And Epidemiology and Disease Control

III. MANAGEMENT OF EXPOSURE

A. Definition of Exposure

Epidemiologic evidence indicates that while HIV can be isolated from numerous body fluids, the only body fluids known to be responsible for infections are blood, semen, vaginal fluids and breast milk. The following classification of exposures is designed to clarify the need for following-up from different types of exposures. Significant exposures to Hepatitis B Virus and their management are thoroughly discussed in the MMRW June 19, 1987: 36, 353-366.

1. CLASS I EXPOSURE

a. Percutaneous exposures occur through the skin, e.g. needle stick injury,injury from sharp objects.
b. Mucocutaneous exposures to blood, semen, serosanguinous or purulent drainage.
Mucocutaneous exposures occur through splashes or aerosolization into mucous membranes, e.g. eye, nose, mouth.
c. Open wound exposures to blood, semen, serosanguinous or purulent drainage.
Open wound exposures include contact with exudative lesions, burns, dermatitis, or chapped skin.

2. CLASS II EXPOSURE

a. Percutaneous exposures to other body fluids.*
b. Mucocutaneous exposure to other body fluids.
c. Open wound exposures to other body fluids.

* fluids other than blood, semen, serosanguinous or purulent drainage.

3. CLASS III EXPOSURES

Intact skin exposure to blood or body fluids.

B. Not an Exposure
1. Being in the same room as an HIV infected person.
2. Touching an HIV infected person.
3. Blood/body fluids on clothing or equipment.

C. Management of Exposures
1. Immediate Response (Class I, II, III, Exposures)
a. Percutaneous exposure: As soon as possible wash area with running water or germicidal handwashing solution over wound and attempt to express blood from the wound, After thoroughly cleaning wound, apply alcohol, betaine or hydrogen peroxide.
b. Mucocutaneous exposure: Flush eye, nose or mouth thoroughly with water.
c. Open wound exposure: Flush area with saline or water and apply alcohol, betaine or hydrogen peroxide.
d. Intact skin exposure: Wash area promptly.

Follow-up Procedure

1. Evaluate Exposure
Determine what class of exposures has occurred. The following steps are recommended depending upon the class of exposure.

a. CLASS I EXPOSURE:
There is documented risk of HIV infection with a Class I Exposure which is presently estimated to be less than 1%. Follow-up counseling and testing is definitely recommended for class I exposures.

b. CLASS II EXPOSURE:
Class II Exposures offer an extremely low risk of HIV infection. Thus follow-up counseling and testing is optional for Class II Exposures.

c. CLASS III EXPOSURES:
There is no epidemiologic evidence that intact skin exposure to blood/body fluids is a risk factor HIV infection. Employees concerned about Class III Exposure should be offered counseling and education about HIV. If the employee still desires HIV testing it should be available through the employer or at an alternative test site.

2. Procedures with Class I (and possibly Class II) Exposures.

   a. Counseling and testing the source person
   When possible, the person who is the source of exposure should be informed of the incident and tested for HIV status after informed consent is obtained. Pre-and post-test counseling should be provided for the source person, institutions should develop policies for testing source persons when consent can not be obtained (e.g. an unconscious person). Policies should include statement of who has the right to consent for testing and who has access to test results.

   b. Counseling and Testing the Exposed Person

      1) Counseling
      The exposed person should be counseled regarding the low risk of HIV infection with exposures. Ongoing counseling should be available to employees who have fears regarding HIV exposures. It is recommended that all exposed persons follow "precautions" listed below until determination of the need for follow-up HIV Antibody test is made.

      2) Baseline HIV Antibody Test
      It is recommended that the exposed person have a voluntary, confidential baseline HIV antibody test as soon as possible, but no longer than 2 weeks after the exposure. It usually takes between 2 and 12 weeks to produce antibodies after infection with the HIV virus. If this baseline HIV antibody test is positive, the infection occurred prior to the present exposure.

      3) Reporting Febrile Illness
      Advise the exposed person to report and seek medical evaluation for any acute febrile illness within 12 weeks after the exposure. Such an illness. particularly one characterized by fever, rash or lymphadenopathy, may be indicative of recent HIV infection.

      4) Follow-up HIV Antibody Tests
      If the source person is:
         a . HIV antibody negative;
         b. has no signs and symptoms of HIV infection;
         c. has no history of high risk behaviors;

      AND the exposed person does not experience a febrile illness post-exposure, then no further testing or precautions are recommended for the exposed person. Follow-up testing is optional.

      If the Source person
         a. refuses to be HIV tested;
         b. is known to be HIV positive
         c. has history of high risk behaviors;

      OR if the exposed person experiences an acute febrile illness post-exposure, the exposed person should be counseled and tested and follow precautions to prevent transmission of HIV.

      If the baseline HIV antibody test is negative, the HIV antibody test should be repeated at 6 weeks, 3 months, 6 months and 12 months to determine if infection with the HIV virus has occurred. The majority of persons infected with HIV become antibody positive during the first 3 months following exposure.

      5) Precautions
      During the follow-up or retesting period described above, especially during the first 12 weeks when most infected persons are expected to seroconvert (HIV antibody test becomes positive), it is recommended that the exposed person be given the following information and advice regarding precautions for preventing transmission of HIV:
         a. Do not donate blood or plasma
         b. Do not share personal items potentially contaminated with blood, i.e. razors, toothbrushes.
         c. There is a risk of infecting others by sexual intercourse, sharing of needles, oral genital contact and possibly intimate kissing (MMWR 34, 1-5)
         d. Use latex condoms during sexual intercourse to prevent the exchange of body fluids. (Note: Use of condoms are not 100% protection).
         e. Use of Nonoxynol-9 foams or jellies for vaginal intercourse is suggested.
         f. Delay pregnancy for at least 12 months.
         g. Health care workers should follow guidelines regarding "Universal Precautions and the HIV Infected Worker"

REFERENCES: MMWR 1985;34:1-5 MMWR 1987;36(Suppl. no. 2S). 02/88

Appendix F

OCCUPATIONAL EXPOSURE to BLOODBORNE PATHOGENS PROPOSED STANDARD

.01 Scope and Application

A. This chapter applies to occupational contact with human blood and other body fluids, tissues, and with substances associated with the laboratory study of Blooldborne Pathogens and Disease in all places of employment covered by the Maryland Occupational Safety and Health Act, Article 89, Section 29 et seq., Annotated Code of Maryland.

B. This Chapter does not preempt any other regulation or standard.

.02 Definitions

A. "Bloodborne Pathogens"

1. Means pathogenic microorganisms which:
   a. are present in human blood, and
   b. can cause disease in human.
2. Includes, but is not limited to, Hepatitis B Virus ("HBV"), Hepatitis non-A and non-B Viruses, and Human Immunodeficiency Virus ("HIV").

B. "Body Fluids" mean human blood, blood products, semen, vaginal secretions, purulent drainage and cerebrospinal, synovial, pleural,peritoneal, pericardial and amniotic fluids, saliva in dental procedures and any other body fluids containing visible blood.

C. "Contact" means contact without regard to the use of any personal protective clothing and equipment, between an employee's skin or mucous membranes and another person's blood or other body fluids, tissues, or a laboratory substance associated with the laboratory study of Bloodborne Pathogens or Disease.

D. "Contact task" means a job related task, or group of tasks, where contact, as defined in C, above, may be reasonably anticipated based upon consideration of the task or group of tasks.

E. "Exposure"means another person's blood or other body fluids, tissues or a laboratory substance being introduced into the body of an employee by:

1. Penetrating the skin (percutaneous),
2. Passing through:
   a. A mucous membrane in the eye, mouth or nose (nucocutaneous), or,
   b. Skin that is abraded or otherwise non-intact (cutaneous), or
   c Intact skin when there is prolonged direct contact with large amounts of blood or other body fluids.

F. "Laboratory substance" means materials associated with the laboratory investigation of Bloodborne Pathogens or Disease, such as blood or an organ or excreta from an experimental animal, an embryonated egg, and a tissue or cell culture.

G. "Purulent drainage" means drainage containing pus.

.03 Initial Determination

A. An employer shall:

1. Evaluate each routine or reasonably anticipated job-related task or group of tasks,
2. Determine which are contact tasks,
3. Make a written record of the determination
4. Provide the record to the employee or post the record in a place accessible to employees, and
5. Establish a system to ensure that tasks are evaluated whenever there is a process, material, control or personnel change which may result in new or additional contact tasks

B. If an employer has no contact task in the place of employment, the employer shall make and post or provide to employees a written record of the determination in accordance with Section A, above,

C. If an employer has any contact tasks in the workplace, the employer shall:

1. Identify all employees who may be required in the course of their employment to perform a contact task;
2. Ensure that employees who are not required to perform contact tasks receive the information noted in regulation .11A;
3. For each contact task, determine the likelihood of contact by:
   a Assuming that all human blood and other body fluids, or tissues are infectious, and
   b. Assessing the following factors:
      i. The type and volume of body fluids or tissues involved,
      ii. The probability of contact, as indicated by the tasks,work practices, tools and other contributing elements, and
      iii. The probable type of exposure, for example through the skin when the skin is non-intact or when work involves the use of sharp instruments, or through the mucous membranes when there may be a splash of blood or other body fluids.

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.04 Contact Tasks-General Requirements

A. For each contact task, an employer shall implement, to the extent feasible, and practicable, engineering controls as the primary method to reduce the likelihood of contact between the skin or mucous membrane of an employee and another person's blood or other body fluids, tissues, or a laboratory substance.
   2. Providing appropriate personal protective equipment ("PPE"), housekeeping, workplace monitoring, post-exposure monitoring, and training as required by this chapter.

B. If conditions change in a manner that affects the potential for contact, and employer shall ensure that tasks are evaluated to determine which are contact tasks.

.05 Engineering Controls

A. For each contact task, an employer shall implement, to the extent feasible, and practicable, engineering controls as the primary method to reduce the likelihood of contact between the skin or mucous membrane of an employee and another person's blood or other body fluids, tissues, or a laboratory substance.

B. Engineering controls include.
   1. The use, to the fullest extent feasible, of substances, procedures or devices which prevent the potential for contact.
   2. Substituting, for existing procedures and devices, procedures and devices less likely to result in exposures.
   3. Isolation or containment of the source of potential contact by, for example:
      a. Disposable, puncture-resistant containers for used needles, blades or other sharp objects.
      b. Glove boxes, ventilated cabinets or other enclosures.

.06 Work Practices

A. After implementing appropriate engineering controls, an employer shall further reduce the likelihood of contact by developing and implementing appropriate work practices for each contact task.

B. An employer shall:
   1. Develop work practices which delineate the methods or procedures to be used to minimize contact in accordance with the factors set forth in regulation .03,
   2. Maintain the work practices in writing, and
   3. Ensure that an employee who may be required in the course of their employment to perform a contact task has:
      a. Ready access to the relevant written work practices, and
      b. Training in the appropriate work practices.

C. CONTENT
   1. At a minimum, the employer shall ensure that the work practices require that:
      a. All procedures involving blood or other body fluids, tissues or laboratory substances are performed in a manner to minimize splashing, spraying and aerosolization of these substances.
      b. Personal protective equipment, in accordance with Regulation .07, is used to minimize contact.
      c. Skin is thoroughly washed with soap and water or cleaned with skin degermers as immediately as possible after contact with human blood or other body fluids, tissues or with a laboratory substance.
      d. hands are thoroughly washed with soap and water or cleaned with skin degermers upon removal of gloves.
      e. An article that has touched blood or other body fluids, tissues or a laboratory substance is placed.
         i. In an impervious bag, and
         ii. In a second bag, if the single bag is likely to tear or to be contaminated on the outside.
      f. Cleaning or laundering of contaminated personal protective equipment is by methods compatible with manufacturer's recommendations and under appropriate conditions to effectively decontaminate and maintain the protection factors of the equipment.
      g. Sharp items, such as needles and scalpel blades are:
         i. Handled carefully, and
         ii. Placed in a labeled, closable, puncture-resistant, splatter-proof container for disposal.
      h. Used needles are not:
         i. Bent, broken or otherwise manipulated by hand, or
         ii. Recapped by hand, in the absence of substantial justification for recapping.
         iii. Mouth pipefitting or suctioning is prohibited.
   2. An employer shall establish and implement procedures for appropriate clean-up and notification of management when a spill of blood or other body fluids, tissues or a laboratory substance occurs.
   3. Hospital or health care employers shall ensure strict adherence to general infection control guidelines as established by the Centers for Disease Control (CDC) and the Joint Commission for the Accreditation of Health Organizations.

4. A research laboratory or production facility employer engaged in the culture, production, concentration and manipulation of Bloodborne Infectious Disease shall ensure strict adherence to the infection control practices established by the Centers for Disease Control.
5. An employer of pre-hospital emergency personnel who provide services to the public shall ensure that in addition to the above protection, the work practices for pre-hospital personnel provide for:
   a. Employees protecting any cuts or abrasions with bandages or small dressing.
   b. An appropriate means of clean-up at the emergency site, including, but not limited to foamed alcohol hand and skin degermers.
   c. An opportunity to decontaminate or change contaminated or potentially contaminated clothing and equipment before proceeding to another incident, to the extent feasible.
   d. Appropriate bags for placing soiled uniforms or equipment until these items may be disposed of or cleaned and decontaminated.
6. The various recommendations from the Centers for Disease Control for the prevention of transmission of Blood-borne Infectious Disease, published in Morbidity and Mortality Weekly Reports (MMWR), should be used as guidelines for the development of work practices.

.07 Personal Protective Clothing and Equipment

A. For each contact task, an employer shall:
   1. Determine the appropriate personal protective clothing and equipment for reducing the likelihood of contact presented in the task in accordance with Regulation .03.
   2. Specify the appropriate personal protective clothing and equipment in the written work practices,
   3 Provide the specified clothing and equipment,
   4. Maintain the clothing and equipment in good condition, and
   5 Require the employee to use the clothing and equipment provided.

B. The employer shall provide to an employee who performs contact tasks routinely the following personal protective clothing and equipment:
   1. Appropriate gloves, taking into account:
      a. The size of the glove,
      b. The strength of the glove , and
      c. The permeability of the glove;
   2. If there is the potential for eye, nose or mouth contact with splashes of blood or other body fluids or tissues, masks, protective eyewear or chin length face shields;
   3. If there is a potential for clothing becoming soaked with blood or other body fluids, protective outer garments such as impervious coveralls and shoe covers, and
   4. If the need for resuscitation is predictable, a mouth-piece, resuscitation bag, or other ventilation device.

C. For an employee who may be required to perform contact tasks on an intermittent or non-routine basis, an employer shall:
   1. Ensure ready access to the personal protective equipment appropriate for the task, and
   2. Require the use of the equipment to the extent feasible when the employee performs the task.

.08 Housekeeping

A. An employer shall implement a housekeeping program to minimize the potential for employee contact.

B. When a piece of equipment or a working surface has been in touch with blood or other body fluids, tissues or a laboratory substance, an employer shall ensure that it is cleaned and disinfected properly and effectively.

C. In determining the appropriate cleaning method, an employer shall take into account the surface and equipment involved and current CDC guidelines.

D. An employer shall ensure that all infectious waste is disposed of in accordance with applicable federal, state and local regulations.

E. Laundry.

   An employer shall ensure that:
   1. Laundry which is or may be soiled with blood or other body fluids or laboratory substance is:
      a. Treated as if contaminated;
      b Handled as little as possible;
      c. Appropriately bagged at the location where it was used; and
      d Cleaned or laundered in a way which inactivates or destroys bloodborne pathogens.
   2. Laundry workers wear protective gloves and other appropriate personal protective work clothing while handling or sorting potentially contaminated laundry.

.09 Workplace Monitoring

An employer shall monitor the effectiveness of engineering controls, work practices, protective equipment and housekeeping by:

A. Conducting regular surveillance of the workplace to ensure that:
   1. Engineering controls are maintained or replaced to ensure effectiveness, and
   2. Employees performing contact tasks:
      a. Follow work practices, and
      b. Properly use the protective clothing and equipment provided.

B. Providing, after report of an occupational exposure for:
   1. Investigation of the conditions surrounding the reported occupational exposure, and
   2. Improvement, as necessary, of training, engineering, work practices, or protective clothing and equipment to prevent or limit recurrence of occupational exposure.

.10 Post Exposure Medical Monitoring

A. For places of employment where employees perform contact tasks, an employer shall make provisions for medical monitoring and counseling without cost to the employee for exposed employees.

B. An employer shall;
   1. Subsequent to a report of occupational exposure and at the request of the exposed employee, provide monitoring for serological evidence of HBV,HIV and any other Bloodborne Pathogens reasonably anticipated:
      a. Immediately following the reported exposure;
      b. Periodically thereafter, in accordance with established medical practice;
      c. In a manner that protects the confidentiality of;
         i. The employee's identity, and
         ii. The test results.
   2. Ensure that all medical evaluations and procedures are performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory.
   3. Provide counseling:
      a. By an individual trained to address the issues arising from potential exposure to Bloodborne Pathogens for an employee who:
         i. Has reported an occupational exposure, or
         ii. Participates in serological monitoring provided under B(1).
      b. Which includes information:
         i. About the modes of transmission of Bloodborne Pathogens,
         ii. Of the availability of any medical established post exposure preventive treatment,
         ii. About the availability of resources within the community, and
         iv.. Any other details available about the nature of the occupational exposure

.11 Employee Information and Training and Education

A. An employer in a workplace having any contact task shall ensure that all employees receive general information at the time of initial employment or within 90 days after the effective date of this standard about Blooborne Pathogens and are informed of the occupational exposure risk factors associated with transmission of Bloodborn Pathogens, including HBV and HIV, so that the employee can recognize situations which pose potential for occupational exposure and ways to avoid or minimize personal risk.

B. For all employees who may be required in the course of their employment to perform a contact task, an employer shall:
   1. Establish and maintain an employee training and education program.
   2. Train employees concerning the appropriate engineering controls, work practices and PPE:
      a. Within 90 days after the effective date of this standard, or Before the employee begins to perform the task ,
      b. At least annually, while the employee is assigned to the task, and
      c. Whenever conditions change in a manner that increases the potential for contact.
   3. Content. An employer shall cover at least the following topics in the training program:
      a. The modes of transmission of Bloodborne Pathogens and Disease, including HBV and HIV.
      b. The availability of vaccines:
         i. That an effective vaccine for HBV is currently available, and
         ii. Of the availability of another vaccine, when a safe and effective vaccine for any other Bloodborne Pathogen becomes available.
      c. The availability of post exposure blood monitoring and counseling to an employee who makes a request immediately following an occupational exposure, and

d. An explanation of the procedure to follow is an occupational exposure occurs, including:
   i. The method of reporting the incident, and
   ii. Time frames for making the report.
e. Availability of post exposure preventive treatment.
f. Recognition of contact tasks.
g. Protective clothing and equipment generally appropriate for contact tasks and the basis for selecting clothing and equipment.
h. The location and proper use of protective clothing and equipment
i. Appropriate removal, handling, cleaning, and disposal of contaminated clothing or equipment.
j. The limitations of protective clothing and equipment.
k. Corrective actions to take in the event of spills or personal exposure to blood or other body fluids, tissues or a laboratory substance, and the appropriate reporting procedures.

4. Periodic training may be refresher training which highlights the above information.

.12 Recordkeeping

For workplaces where an employee is required to perform a contact task, the employer shall maintain records in accordance with 29 CFR 1910.20 which has been incorporated by reference in COMAR 09.12.31. of:

A. Initial determinations and the procedure used to identify contact tasks.
B. The method of developing work practices.
C. The training provided.
D. Workplace reviews for compliance.
E. Exposure Monitoring
   1. The conditions associated with an incident of occupational exposure.
   2. An evaluation of those conditions.
   3. A description of measures taken to prevent a recurrence of other similar exposure.